

XP-002222307

AN - 1994-023070 [03]

A - [001] 017 02& 038 04- 05- 06- 075 09& 09- 10& 10- 143 144 151 155 157
160 163 164 166 167 169 17& 170 171 177 230 231 239 28& 299 305 342
344 345 357 364 365 437 47& 473 477 512 516 518 521 53& 541 546 548
551 560 561 597 613 623 627 679 725

- [002] 017 139 185 189 273 311 341 575 583 589 721

AP - JP19920139048 19920529

CPY - NIOF

DC - A21 A23 A82 G02 M13

DR - 0760-U 0859-U 2057-U

FS - CPI

IC - C08G63/688 ; C09D7/12 ; C09D161/28 ; C09D167/00

KS - 0004 0016 0037 0041 0044 0047 0050 0053 0203 0206 0216 0226 0231 1276
1288 1291 1319 1343 1450 1458 1462 1464 1737 2020 2099 2123 2148 2150
2151 2155 2177 2208 2297 2299 2302 2319 2321 2560 2585 2589 2593 2608
2622 2691 2728 2737 3075 3180

MC - A05-B02 A05-E01D1 A08-D02 A08-D03 A12-B01H A12-B01J G02-A02E G02-A02F
M13-H05

PA - (NIOF) NIPPON OILS & FATS CO LTD

PN - JP5331410 A 19931214 DW199403 C09D167/00 010pp

PR - JP19920139048 19920529

XA - C1994-010683

XIC - C08G-063/688 ; C09D-007/12 ; C09D-161/28 ; C09D-167/00

AB - J05331410 A new coating compsn. comprises a polyester-melamine resin,

an acid catalyst, a pigment and a pigment-dispersing agent and is
obtd. by compounding 0.1-1.0 wt. pts. effective component of acid
catalyst with 100 wt. pts. of a polyester-melamine resin. The
polyester melamine resin formed by compounding a polyester resin
(number-average molecular wt.: 5000-50,000) being a copolymerised
polyester synthesised from polybasic acid and polyhydric alcohol by
compounding an aromatic carboxylic acid component and/or aliphatic
carboxylic acid component contg. 0.2-10 mol.% metal sulphonate salt to
total acid component, with a melamine resin in the wt. ratio of
polyester resin/melamine resin = 95/5-60/40, and by compounding 1-200
wt. pts. basic pigment-dispersing agent (number-average molecular wt.:
1000-10,000; amine value: 10-200 mg KOH/g) with 100 wt. pts. pigment.
The acid catalyst is dinonylnaphthalenesulphonic acid,
dinonylnaphthalenedisulphonic acid, p-toluenesulphonic acid,
dodecylbenzenesulphonic acid and/or amine-blocked prod. of these.

- USE/ADVANTAGE - The coating compsn. is used for coating metal to
obtain the precoated metal for prodn. of household electric
appliances, outdoor building materials, etc. In this coating compsn.
displaying high gloss, degradation in gloss with time is small and
colour tone stability is good. The coating compsn. has good hardness,
processability and solvent resistance as the coating for precoating
metal. Degradation of coating performance with the passage of time is
small.

- In an example, at first, the polyester resin (A) was prepd. by
transesterification of an acid component mixt. comprising 228.6 wt.
pts. terephthalic acid (1.38 mol; 42.5 mol.%), 224.1 wt. pts.
isophthalic acid (1.35 mol; 41.5 mol.%), 71.0 wt. pts. adipic acid

(0.49 mol; 15 mol.%) and 9 wt. pts. 5-sodium-sulphoisophthalic acid (0.03 mol; 1.0 mol.%) with a glycol component mixt. comprising 100.8 wt. pts. ethylene glycol (1.625 mol; 50.0 mol.%) and 169.0 wt. pts. neopentyl glycol (1.625 mol; 50.0 mol.%) at 160-220 deg. C for 1 hr. in the presence of an inert gas, and then, by further reaction at 220-230 deg. C for 1 hr. and final polymerisation reaction at 260 deg. C for 1 hr. under reduced pressure (0.1 mmHg). The coating compsn. as white base coating was obtd. by compounding 80 wt. pts. of the polyester resin (A) (number-average molecular wt.: 20,000; glass transition point: 42 deg. C) with 200 wt. pts. thinner (mixed solvent of Solvesso 150/cyclohexanone = 1/1 wt. ratio), 17 wt. pts. 'Disperby K-160' (RTM: pigment-dispersing agent; solid matter content: 29%; amine value: 37.9 mg KOH/g; number average molecular wt.: 20,000), 100 wt. pts. 'IR-603'

- (RTM: titanium dioxide), 20 wt. pts. 'Cymel 303' (RTM: hexamethoxymethylol melamine resin), 0.3 wt. pts. p-toluene-sulphonic acid (acid catalyst) and 0.5 wt. 'Polyflow No. 90' (RTM: levelling agent). (Note) (The content of metal sulphonate salt in total acid component: 1.0 mol.%; the ratio of polyester/melamine resin: 80.20; the amt. of acid catalyst per 100 wt. pts. polyester-melamine resin: 0.3 wt.pt.). After prepn. of test pieces by flow coating of the coating compsn. on panels (JIS. G. 3303 (SPTE) 0.3 x 100 x 20 mm) and baking at 200 deg. C for 2 min., the coat performance was tested about the test piece. The gloss was 71. The solvent resistance was over 100 times in terms of number of times by rubbing with xylene impregnated gauze until the appearance of primer or the base material. The processability was 2T in terms of number of plates inserted at the bent part in the 180 deg. bending test. The hardness was 2H in terms of pencil lead hardness. The gloss after 15 days at 50 deg. C was 68.(Dwg.0/0)

IW - COATING COMPOSITION PIGMENT DISPERSE HIGH GLOSS COMPRISE POLYESTER
MELAMINE RESIN ACID CATALYST PIGMENT PIGMENT DISPERSE AGENT
IKW - COATING COMPOSITION PIGMENT DISPERSE HIGH GLOSS COMPRISE POLYESTER
MELAMINE RESIN ACID CATALYST PIGMENT PIGMENT DISPERSE AGENT

NC - 001

OPD - 1992-05-29

ORD - 1993-12-14

PAW - (NIOF) NIPPON OILS & FATS CO LTD

TI - Coating compsn. having good pigment-dispersibility and high gloss -
comprises a polyester-melamine resin, acid catalyst, pigment and
pigment dispersing agent

A01 - [001] G1310-R D01 D60 F35 D10-R D18-R F62 Gm D61-R ; G1025-R G0997
D01 F28 F26 G1070-R F29 ; P0839-R F41 ; M9999 M2073 ; L9999 L2528
L2506 ; L9999 L2186-R ;

- [002] R01023 G1343 G1310 D01 D19 D18 D31 D50 D60 D88 F37 F35 E00 E20 ;
R00702 G1343 G1310 D01 D19 D18 D31 D50 D60 D88 F37 F35 E00 E21 ;
R01060 G1343 G1310 D01 D11 D10 D50 D60 D86 F37 F35 E00 E13 ; R10610
G1354 G1343 G1310 D01 D19 D18 D31 D50 D60 D61 D88 F37 F35 F62 E00 E23
Na 1A ; R00822 G1025 G0997 D01 D11 D10 D50 D82 F28 F26 ; R01075
G1025 G0997 D01 D11 D10 D50 D85 F28 F26 ; H0033 H0011 ; L9999 L2528
L2506 ; L9999 L2197 L2186 ; P0908 P0839 F41 H0293 ;

- [003] ND01 ; ND04 ; Q9999 Q7114-R ; K9552 K9483 ; Q9999 Q6826-R ;

Q9999 Q7330-R ; B9999 B4411 B4400 B4240 ; B9999 B4273 B4240 ; B9999
B3792 B3747 ; B9999 B4626 B4568 ; B9999 B3623 B3554 ; K9723 ;
K9654 ;

- [004] A999 A102 A077 ;

- [005] A999 A113 ;

- [006] D01 D11 D10 D20 D18 D32 D50 D60 D95 F62 ; R00760 G2028 D01 D11
D10 D19 D18 D31 D50 D60 D87 F62 ; R02057 D01 D11 D10 D50 D60 D93 F62 ;
A999 A146 ;

A02 - [001] R00859 G1809 G1649 D01 D23 D22 D31 D45 D50 D83 F19 F10 F07 ;
P0259-R P0226 ; A999 A157-R ; A999 A782 ;

- [002] B9999 B5094 B4977 B4740 ;

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